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ARMY ELECTRONICS COMMAND WHITE SANDS MISSILE RANGE N--ETC F/G 4/2  
12829C LANCE MISSILE NUMBER 4236, ROUND NUMBER 299 RSL (25 AUGU--ETC(U)  
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METEOROLOGICAL DATA REPORT

12829C LANCE  
MISSILE NO. 4236, ROUND NO. 299 RSL  
(25 AUGUST 1977)

BY

WSMR METEOROLOGICAL TEAM

ATMOSPHERIC SCIENCES LABORATORY  
WHITE SANDS MISSILE RANGE, NEW MEXICO

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UNITED STATES ARMY ELECTRONICS COMMAND

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WHITE SANDS MISSILE RANGE, NEW MEXICO

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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER <b>14</b> DR-944 ✓	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) 12829C Lance Missile No 4236, Round No 299 RSL (25 August 1972). <i>Number</i>	5. TYPE OF REPORT & PERIOD COVERED	
6. AUTHOR <b>9</b> WSMR Meteorological Team data rept.	6. PERFORMING ORG. REPORT NUMBER	
7. PERFORMING ORGANIZATION NAME AND ADDRESS	8. CONTRACT OR GRANT NUMBER(s) <b>16</b> DA Task 1T665702D127-02 <b>12</b>	
11. CONTROLLING OFFICE NAME AND ADDRESS US Army Electronics Command Atmospheric Sciences Laboratory White Sands Missile Range, New Mexico ✓	12. REPORT DATE <b>11</b> September 1977	
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) US Army Electronics Command Ft. Monmouth, New Jersey <b>12</b> 24p.	13. NUMBER OF PAGES 24	
15. SECURITY CLASS. (of this report) UNCLASSIFIED		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) 1. Ballistics 2. Meteorology 3. Wind		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of 12829C Lance, Missile Number 4236, Round Number 299 RSL, are presented in tabular form.		

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# INTRODUCTION

12829C Lance, Missile Number 4236, Round Number 299 RSL, was launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1508 HRS MDT, 25 August 1977. The scheduled launch time was 1500 HRS MDT.

# DISCUSSION

Meteorological data were recorded and reduced by the WSMR Meteorological Team, Atmospheric Sciences Laboratory (ASL), WSMR, New Mexico. The data are presented in the following tabulations.

ELEVATION	3,986.0	FEET/MSL
PRESSURE	877.2	MBS
TEMPERATURE	34.7	°C
RELATIVE HUMIDITY	34	%
DEW POINT	16.6	°C
DENSITY	985	GM/M <sup>3</sup>
WIND SPEED	02	MPH
WIND DIRECTION	160	DEGREES
CLOUD COVER	1 2 1	Cu Cb Cs

TABLE I. SURFACE OBSERVATIONS AT LC-33,  
1500 HRS MDT/25 AUGUST 1977.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR	160	02	2100	240	7.0
100	000	0	2200	240	8.0
200	000	0	2300	230	7.0
300	025	.5	2400	210	5.0
400	350	3.5	2500	230	3.5
500	360	2.5	2600	260	2.0
600	350	1.0	2700	285	3.5
700	185	2.0	2800	265	4.5
800	180	2.5	2900	245	4.5
900	205	6.0	3000	230	4.5
1000	200	6.5	3100	240	5.5
1100	215	5.0	3200	275	3.5
1200	240	6.0	3300	305	5.5
1300	265	6.5	3400	325	7.0
1400	270	4.5	3500	215	5.5
1500	275	3.0	3600	315	3.0
1600	250	4.5	3700	315	2.5
1700	225	5.5	3800	355	1.0
1800	210	2.5	3900	045	2.0
1900	265	3.5	4000	110	2.0
2000	220	4.5	4100	170	3.5

TABLE II. PILOT-BALLOON-MEASURED WIND DATA, RELEASE NO. 1  
RELEASED FROM LC-33, AT 1507 HRS MDT/25 AUGUST 1977  
12829C LANCE, MISSILE NO. 4236, ROUND NO. 299 RSL

PIBAL RELEASE POINT WSTM COORDINATES:

X = 486,296.83    Y = 185,251.85    Z = 3,986.67

APPROXIMATELY: 300 FT. SOUTH OF LAUNCHER

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.



HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
4200	220	3.0
4300	225	5.5
4400	190	4.0
4500	170	4.5
4600	185	5.5
4700	170	5.0
4800	200	4.5
4900	200	7.5
5000	200	6.5
5100	195	3.0
5200	225	2.5
5300	245	2.5
5400	245	1.0
5500	230	2.0
5600	140	1.5
5700	265	2.5
5800	195	1.0
5900	235	1.0
6000	235	2.0
6100	240	4.5
6200	260	3.5
6300	235	1.5
6400	255	2.0
6500	240	7.0
6600	240	5.5

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
6700	260	6.5
6800	260	7.0
6900	220	5.0
7000	245	9.5
7100	250	15.0
7200	240	14.0
7300	250	14.5
7400	250	17.5
7500	265	16.0
7600	270	15.5
7700	255	11.5
7800	260	13.5
7900	280	13.5
8000	255	10.5
8100	240	11.5
8200	220	11.0
8300	225	10.5
8400	235	11.5
8500	235	12.0
8600	240	13.5
8700	230	11.0
8800	235	10.5
8900	220	10.5
9000	210	8.0

TABLE II. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

T-TIME (SEC)	SPEED (MPH)	DIR DEG
-30.0	01	290
-20.0	03	240
-10.0	04	243
-00.00	05	245
+10.00	05	210

TABLE III. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION POLE NO. 2  
12829C LANCE, MISSILE NO. 4236, ROUND NO. 299 RSL  
LAUNCHED FROM LC-33, 1507 MDT/25 AUGUST 1977

WSTM COORDINATES: X = 485,874.93 Y = 186,012.00 H = 4,033.57 (VANE)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

T-TIME (SEC)	SPEED (MPH)	DIR DEG
-30.0	CALM	CALM
-20.0	CALM	CALM
-10.0	CALM	CALM
-00.00	CALM	CALM
+10.00	CALM	CALM

TABLE IV. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, POLE NO. 3  
12829C LANCE, MISSILE NO. 4236, ROUND NO. 299 RSL  
LAUNCHED FROM LC-33, 1507 MDT/25 AUGUST 1977

WSTM COORDINATES: X = 485,877.29 Y = 186,116.06 H = 4,063.92 (VANE)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

STATION ALTITUDE 3989.00 FEET MSL  
25 AUG. 77  
ASCENSION NO. 627

SIGNIFICANT LEVEL DATA  
2370020627  
WHITE SANDS  
TABLE V.

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES	DEWPOINT CENTIGRADE	
877.2	34.0	15.4	33.0
850.0	31.4	15.4	38.0
700.0	14.0	7.1	63.0
671.3	12.0	1.9	50.0
583.8	3.3	-5.3	53.0
526.8	-2.0	-13.2	42.0
500.0	-5.0	-12.6	55.0
429.3	-11.7	-16.9	65.0
420.7	-12.2	-20.9	48.0
400.0	-14.7	-20.7	60.0
392.8	-15.0	-32.8	20.0
357.8	-20.4	-27.9	51.0
300.0	-29.4	-39.6	36.0
262.8	-36.7	-47.9	30.0
250.0	-38.9	-49.5	31.0
206.3	-50.0		
200.0	-50.6		
150.0	-63.9		
120.8	-74.0		
111.3	-77.6		
110.4	-75.7		



STATION ALTITUDE 3989.00 FEET MSL  
25 AUG. 77  
ASCENSION NO. 627

UPPER AIR DATA  
2370020627  
WHITE SANDS  
TABLE VI.

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	
3989.0	877.2	34.0	15.4	33.0	987.4	685.4	.0	.0	.0	1.000291
4000.0	876.9	34.0	15.5	33.1	987.1	685.3	14.6	14.6	.0	1.000291
4500.0	862.3	32.6	15.4	35.7	974.9	683.8	14.6	14.6	.1	1.000289
5000.0	847.8	31.2	15.3	38.3	963.0	682.3	14.6	14.6	.2	1.000286
5500.0	833.1	29.6	14.8	40.6	951.3	680.5	14.6	14.6	.3	1.000282
6000.0	818.7	28.0	14.2	42.8	939.8	678.7	14.6	14.6	.4	1.000277
6500.0	804.5	26.5	13.6	45.1	928.5	676.8	14.6	14.6	.5	1.000273
7000.0	790.6	24.9	12.9	47.3	917.4	675.0	14.6	14.6	.7	1.000268
7500.0	776.9	23.3	12.2	49.6	906.5	673.1	274.5	274.5	.8	1.000263
8000.0	763.4	21.8	11.4	51.8	895.7	671.3	246.5	246.5	2.9	1.000259
8500.0	750.2	20.2	10.6	54.1	885.1	669.4	242.3	242.3	5.0	1.000254
9000.0	737.2	18.6	9.8	56.3	874.7	667.6	241.4	241.4	7.5	1.000249
9500.0	724.4	17.1	8.9	58.6	864.4	665.7	241.9	241.9	10.4	1.000244
10000.0	711.9	15.5	8.0	60.8	854.2	663.8	242.2	242.2	13.3	1.000239
10500.0	699.5	14.0	7.0	62.8	844.2	661.9	248.2	248.2	13.9	1.000234
11000.0	687.0	13.1	4.8	57.2	832.1	660.7	255.5	255.5	14.2	1.000225
11500.0	674.7	12.2	2.6	51.5	820.1	659.5	257.2	257.2	13.0	1.000217
12000.0	662.4	11.2	1.2	50.3	808.5	658.1	253.3	253.3	10.6	1.000211
12500.0	650.2	10.0	.3	50.7	797.1	656.8	241.6	241.6	8.4	1.000207
13000.0	638.3	8.9	-.7	51.1	785.8	655.4	219.1	219.1	7.4	1.000203
13500.0	626.6	7.7	-1.6	51.5	774.7	654.0	207.6	207.6	8.0	1.000199
14000.0	615.2	6.6	-2.6	51.9	763.6	652.6	205.2	205.2	9.3	1.000195
14500.0	603.9	5.4	-3.6	52.3	753.0	651.2	206.7	206.7	9.6	1.000191
15000.0	592.8	4.3	-4.5	52.7	742.4	649.8	209.3	209.3	9.7	1.000187
15500.0	581.9	3.1	-5.6	52.7	731.8	648.4	213.3	213.3	9.0	1.000183
16000.0	571.0	2.2	-7.0	50.6	720.8	647.2	222.1	222.1	8.6	1.000179
16500.0	560.3	1.2	-8.4	48.6	709.9	646.0	235.5	235.5	8.8	1.000174
17000.0	549.7	.2	-9.9	46.6	699.2	644.7	250.1	250.1	9.1	1.000170
17500.0	539.4	-.8	-11.3	44.5	688.6	643.5	261.3	261.3	9.6	1.000167
18000.0	529.2	-1.8	-12.8	42.5	678.2	642.3	267.0	267.0	9.0	1.000163

UPPER AIR DATA  
2370020627  
WHITE SANDS  
TABLE VI. (CONT)

STATION ALTITUDE 3989.00 FEET MSL  
25 AUG. 77  
ASCENSION NO. 627 1450 HRS NDT

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
18500.0	519.2	-2.8	45.6	666.0	641.0	271.3	8.2	1.000161
19000.0	509.2	-3.9	50.4	657.9	639.7	274.7	7.1	1.000159
19500.0	499.5	-5.0	55.1	647.9	638.5	272.9	7.3	1.000157
20000.0	489.8	-5.9	56.4	637.4	637.4	270.0	8.0	1.000154
20500.0	480.3	-6.8	57.6	627.0	636.4	266.8	9.5	1.000151
21000.0	470.9	-7.6	58.9	616.9	635.3	265.5	11.0	1.000148
21500.0	461.8	-8.5	60.2	606.8	634.3	265.3	12.2	1.000146
22000.0	452.8	-9.4	61.5	597.0	633.2	257.3	13.1	1.000143
22500.0	444.0	-10.2	62.8	587.3	632.2	248.4	13.7	1.000141
23000.0	435.3	-11.1	64.1	577.8	631.1	238.5	14.2	1.000138
23500.0	426.8	-11.8	69.1	568.3	630.2	236.4	14.5	1.000135
24000.0	418.4	-12.5	69.3	558.5	629.3	235.2	14.6	1.000131
24500.0	410.1	-13.5	54.1	549.5	628.1	235.1	14.2	1.000129
25000.0	401.9	-14.5	58.9	540.7	626.9	233.2	13.2	1.000127
25500.0	393.9	-15.0	26.3	531.2	626.1	229.1	11.6	1.000121
26000.0	386.0	-16.0	25.8	522.7	624.8	230.5	11.5	1.000119
26500.0	378.2	-17.2	32.6	514.5	623.4	233.5	11.8	1.000118
27000.0	370.6	-18.4	39.4	506.4	622.0	234.7	13.3	1.000116
27500.0	363.1	-19.6	46.1	498.4	620.6	232.2	14.8	1.000115
28000.0	355.7	-20.7	50.5	490.5	619.2	225.0	16.3	1.000113
28500.0	348.3	-21.8	48.7	482.4	617.8	222.2	18.3	1.000111
29000.0	341.0	-22.8	46.9	474.4	616.5	221.7	20.4	1.000108
29500.0	334.0	-23.9	45.1	466.6	615.2	224.1	22.7	1.000106
30000.0	327.0	-25.0	43.3	458.9	613.8	225.7	24.1	1.000104
30500.0	320.2	-26.1	41.6	451.3	612.5	226.6	25.0	1.000102
31000.0	313.6	-27.1	39.8	443.9	611.1	226.8	25.3	1.000101
31500.0	307.1	-28.2	38.0	436.6	609.8	224.4	25.3	1.000099
32000.0	300.7	-29.3	36.2	429.4	608.4	222.0	24.7	1.000097
32500.0	294.2	-30.5	35.1	422.3	607.0	220.3	22.9	1.000095
33000.0	287.9	-31.7	34.1	415.3	605.5	221.8	22.4	1.000093

STATION ALTITUDE 3989.00 FEET MSL  
25 AUG. 77  
ASCENSION NO. 627

UPPER AIR DATA  
2370020627  
WHITE SANDS  
TABLE VI. (CONT)

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	ATA SPEED KNOTS	INDEX OF REFRACTION
33500.0	281.7	-32.9	33.2	408.4	603.9	224.5	22.4	1.000092
34000.0	275.7	-34.1	32.2	401.6	602.4	226.0	23.5	1.000090
34500.0	269.7	-35.3	31.2	395.0	600.9	226.7	24.4	1.000089
35000.0	263.9	-36.5	30.2	388.4	599.4	226.2	24.9	1.000087
35500.0	258.2	-37.5	30.4	381.6	598.1	226.7	25.6	1.000085
36000.0	252.5	-38.5	30.8	374.8	596.9	227.8	26.4	1.000084
36500.0	246.9	-39.6	29.0**	368.3	595.4	228.4	26.8	1.000082
37000.0	241.3	-40.9	25.3**	362.0	593.7	228.9	26.7	1.000081
37500.0	235.9	-42.3	21.6**	355.9	592.0	229.2	26.1	1.000079
38000.0	230.6	-43.6	17.9**	349.8	590.3	231.9	26.6	1.000078
38500.0	225.4	-44.9	14.3**	343.9	588.6	235.8	27.7	1.000077
39000.0	220.3	-46.2	10.6**	338.1	586.9	239.1	29.3	1.000075
39500.0	215.3	-47.5	6.9**	332.4	585.2	242.1	30.8	1.000074
40000.0	210.4	-48.9	3.2**	326.8	583.5	244.6	30.3	1.000073
40500.0	205.7	-50.1		321.2	581.9	247.3	29.8	1.000072
41000.0	200.9	-50.5		314.4	581.3	250.7	29.6	1.000070
41500.0	196.1	-51.5		308.3	580.0	252.1	29.6	1.000069
42000.0	191.5	-52.6		302.4	578.5	251.7	29.6	1.000067
42500.0	186.9	-53.7		296.7	577.1	248.6	29.2	1.000066
43000.0	182.4	-54.9		291.1	575.6	244.7	28.8	1.000065
43500.0	178.1	-56.0		285.6	574.1	241.6	28.7	1.000064
44000.0	173.8	-57.1		280.2	572.6	238.8	29.0	1.000062
44500.0	169.6	-58.2		275.0	571.2	237.1	30.5	1.000061
45000.0	165.6	-59.3		269.8	569.7	235.7	31.8	1.000060
45500.0	161.6	-60.4		264.7	568.2	236.3	31.2	1.000059
46000.0	157.3	-61.6		259.8	566.7	236.9	30.6	1.000058
46500.0	154.0	-62.7		254.9	565.2	241.2	28.8	1.000057
47000.0	150.3	-63.8		250.1	563.7	246.5	27.1	1.000056
47500.0	146.5	-65.0		245.2	562.1	249.2	26.1	1.000055
48000.0	142.8	-66.2		240.4	560.5	250.7	25.4	1.000054

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.



STATION ALTITUDE 3989.00 FEET MSL  
 25 AUG. 77  
 ASCENSION NO. 627

UPPER AIR DATA  
 2370020627  
 WHITE SANDS  
 TABLE VI. (CONT)

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	ATA SPEED KNOTS	INDEX OF REFRACTION
48500.0	139.2	-67.4		235.7	558.8	249.5	24.5	1.000052
49000.0	135.7	-68.6		231.1	557.2	246.9	23.6	1.000051
49500.0	132.3	-69.8		226.6	555.6	243.6	23.7	1.000050
50000.0	128.9	-71.0		222.2	554.0	240.1	24.3	1.000049
50500.0	125.7	-72.2		217.8	552.3	237.6	24.2	1.000049
51000.0	122.5	-73.3		213.6	550.7	235.9	23.2	1.000048
51500.0	119.4	-74.5		209.4	549.1			1.000047
52000.0	116.2	-75.7		205.1	547.4			1.000046
52500.0	113.2	-76.9		200.9	545.8			1.000045



STATION ALTITUDE 3989.00 FEET MSL  
25 AUG. 77  
ASCENSION NO. 627

MANDATORY LEVELS  
2370020627  
WHITE SANDS  
TABLE VII.

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	DIRECTION DEGREES(T)	SPEED KNOTS
850.0	4925.	31.4	15.4	14.6	.2
800.0	6697.	26.0	13.4	14.6	.6
750.0	8546.	20.2	10.6	242.1	5.3
700.0	10482.	14.0	7.1	248.0	13.9
650.0	12522.	10.0	.3	240.5	8.3
600.0	14688.	5.0	-3.9	207.7	9.7
550.0	16999.	.2	-9.8	250.4	9.1
500.0	19484.	-5.0	-12.6	272.8	7.3
450.0	22180.	-9.6	-15.5	254.3	13.6
400.0	25138.	-14.7	-20.7	231.9	12.6
350.0	28416.	-21.5	-29.3	222.3	18.1
300.0	32087.	-29.4	-39.6	221.5	24.2
250.0	36272.	-38.9	-49.5	228.2	26.7
200.0	41159.	-50.6		252.4	29.5
175.0	43975.	-56.8		238.6	29.2
150.0	47127.	-63.9		248.4	26.5
125.0	50719.	-72.4		236.5	23.5

GEODETIC COORDINATES  
33.81920 LAT DEG  
106.66501 LON DEG

SIGNIFICANT LEVEL DATA  
2370040184  
STALLION  
TABLE VIII.

STATION ALTITUDE 4940.00 FEET MSL  
25 AUG. 77  
ASCENSION NO. 184  
1450 HRS MDT

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		RFL. HUM. PERCENT
	AIR DEGREES	DEWPOINT CENTIGRADE	
848.3	32.0	12.8	31.0
821.8	27.0	6.9	28.0
721.3	15.6	4.9	49.0
717.1	15.3	2.1	41.0
700.0	13.4	1.1	43.0
648.8	7.8	-2.5	48.0
620.8	5.9	-10.3	30.0
600.3	4.9	-17.4	18.0
529.3	-3.5	-21.1	24.0
521.3	-2.9	-25.1	16.0
500.0	-4.5	-27.9	14.0
469.3	-8.9	-30.7	15.0
446.8	-10.3	-30.6	17.0
400.0	-17.3	-30.7	30.0
346.8	-22.9	-39.1	21.0
300.0	-31.0	-46.9	19.0
280.3	-34.6	-48.7	22.0
250.0	-41.0		
200.0	-52.7		
150.0	-66.1		
127.8	-72.7		
111.5	-77.5		
108.3	-71.7		
103.8	-71.7		

UPPER AIR DATA  
2370040184  
STALLION  
TABLE IX.

STATION ALTITUDE 4940.00 FEET MSL  
25 AUG. 77  
ASCENSION NO. 184

1450 HRS MDT

GEODETIC COORDINATES  
33.81920 LAT DEG  
106.66501 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	ATA SPEED KNOTS	INDEX OF REFRACTION
4940.0	848.3	32.0	31.0	962.1	682.8	210.0	7.0	1.000275
5000.0	846.6	31.7	30.8	961.3	682.4	210.5	7.1	1.000273
5500.0	832.3	29.0	29.2	954.5	679.0	213.8	8.0	1.000261
6000.0	818.1	26.6	28.7	946.4	676.1	216.5	8.9	1.000253
6500.0	803.8	25.1	31.6	934.6	674.4	218.6	9.8	1.000251
7000.0	789.8	23.5	34.4	923.0	672.6	220.4	10.7	1.000249
7500.0	776.0	22.0	37.2	911.6	670.9	221.1	10.5	1.000246
8000.0	762.5	20.5	40.1	900.4	669.1	221.0	9.3	1.000243
8500.0	749.2	18.9	42.9	889.4	667.4	215.2	9.5	1.000240
9000.0	736.1	17.4	45.7	878.6	665.6	207.9	10.5	1.000237
9500.0	723.3	15.8	48.6	867.9	663.8	213.4	11.1	1.000233
10000.0	710.4	14.6	41.8	857.0	662.0	219.8	11.6	1.000223
10500.0	697.7	13.2	43.2	845.9	660.4	228.7	11.9	1.000219
11000.0	685.1	11.8	44.4	834.6	658.8	233.8	12.9	1.000215
11500.0	672.6	10.5	45.6	823.5	657.1	237.1	14.1	1.000211
12000.0	660.4	9.1	46.8	812.6	655.5	247.2	15.5	1.000207
12500.0	648.5	7.8	47.8	801.8	653.9	255.1	17.3	1.000203
13000.0	636.5	7.0	40.2	789.7	652.8	258.9	18.6	1.000195
13500.0	624.8	6.2	32.7	777.8	651.7	262.2	19.9	1.000188
14000.0	613.3	5.5	25.7	765.6	650.8	259.1	19.9	1.000182
14500.0	602.0	5.0	19.0	753.2	650.0	253.7	19.5	1.000176
15000.0	590.7	3.8	18.8	742.2	648.7	250.3	19.5	1.000173
15500.0	579.5	2.6	19.7	731.6	647.2	249.2	19.6	1.000170
16000.0	568.6	1.3	20.6	721.2	645.7	249.6	20.0	1.000168
16500.0	557.9	.0	21.5	710.9	644.2	254.0	21.2	1.000165
17000.0	547.4	-1.3	22.4	700.8	642.7	257.5	22.0	1.000162
17500.0	537.1	-2.5	23.3	690.8	641.2	260.1	21.1	1.000160
18000.0	527.0	-3.3	21.7	679.9	640.2	262.7	19.6	1.000157
18500.0	516.9	-3.2	15.6	666.7	640.2	265.2	16.0	1.000152
19000.0	507.0	-4.0	14.7	655.8	639.3	268.4	12.6	1.000150



STATION ALTITUDE 4940.00 FEET MSL  
25 AUG. 77 1450 HRS MDT  
ASCENSION NO. 184

UPPER AIR DATA  
2370040184  
STALLION  
TABLE IX. (CONT)

GEODETIC COORDINATES  
33.81920 LAT NEG  
106.66501 LON NEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	ATA SPEED KNOTS	INDEX OF REFRACTION
19500.0	497.3	-4.9	14.1	645.4	638.2	267.8	10.7	1.000147
20000.0	487.6	-6.2	14.4	636.2	636.6	266.9	8.8	1.000145
20500.0	478.2	-7.6	14.7	627.1	635.0	260.2	10.8	1.000142
21000.0	468.9	-8.9	15.0	618.0	633.4	255.3	13.0	1.000140
21500.0	459.8	-9.5	15.8	607.2	632.7	249.4	17.0	1.000138
22000.0	450.8	-10.0	16.6	596.6	632.0	246.2	20.6	1.000135
22500.0	441.9	-11.0	18.3	586.9	630.9	245.2	23.3	1.000133
23000.0	433.1	-12.3	20.7	578.1	629.4	244.5	24.4	1.000132
23500.0	424.5	-13.5	23.0	569.3	627.8	244.1	24.1	1.000130
24000.0	416.0	-14.8	25.4	560.8	626.3	243.5	23.2	1.000128
24500.0	407.7	-16.1	27.7	552.3	624.8	242.8	22.0	1.000126
25000.0	399.6	-17.3	29.9	544.0	623.2	241.3	22.1	1.000124
25500.0	391.5	-18.1	28.6	534.6	622.2	239.8	22.6	1.000122
26000.0	383.5	-19.0	27.3	525.4	621.2	236.3	23.4	1.000119
26500.0	375.7	-19.8	26.0	516.3	620.2	232.8	24.3	1.000117
27000.0	368.0	-20.6	24.7	507.4	619.2	232.4	26.5	1.000115
27500.0	360.5	-21.4	23.4	498.7	618.2	232.3	28.9	1.000113
28000.0	353.2	-22.2	22.1	490.1	617.2	233.2	31.0	1.000111
28500.0	345.9	-23.0	21.0	481.7	616.2	234.1	33.1	1.000109
29000.0	338.7	-24.2	20.7	473.9	614.7	236.1	33.6	1.000107
29500.0	331.6	-25.4	20.4	466.2	613.2	238.2	34.1	1.000105
30000.0	324.6	-26.6	20.1	458.6	611.8	239.6	34.4	1.000103
30500.0	317.8	-27.8	19.8	451.2	610.3	240.9	34.6	1.000101
31000.0	311.2	-29.0	19.5	443.9	608.8	240.7	34.0	1.000100
31500.0	304.6	-30.1	19.2	436.7	607.3	240.5	33.5	1.000098
32000.0	298.2	-31.3	19.3	429.5	605.9	239.9	33.9	1.000096
32500.0	291.8	-32.5	20.2	422.3	604.4	239.2	34.5	1.000095
33000.0	285.5	-33.6	21.2	415.2	603.0	238.3	35.9	1.000093
33500.0	279.4	-34.8	21.4**	408.3	601.5	237.6	36.8	1.000091
34000.0	273.3	-36.0	17.1**	401.4	599.9	237.3	36.6	1.000090

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.



STATION ALTITUDE 4940.00 FEET MSL  
 25 AUG. 77  
 ASCENSION NO. 184

UPPER AIR DATA  
 2370040184  
 STALLION  
 TABLE IX. (CONT)

GEODETIC COORDINATES  
 33.81920 LAT NEG  
 106.66501 LON NEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	ATA SPEED KNOTS	INDEX OF REFRACTION
34500.0	267.3	-37.3	12.9**	394.7	598.4	237.1	36.3	1.000088
35000.0	261.4	-38.5	8.6**	388.1	596.8	237.3	36.1	1.000087
35500.0	255.7	-39.7	4.3**	381.6	595.2	238.3	37.3	1.000085
36000.0	250.1	-41.0	.1**	375.2	593.6	239.7	39.5	1.000084
36500.0	244.4	-42.2		368.6	592.1	240.2	40.9	1.000082
37000.0	238.8	-43.4		362.1	590.5	240.6	41.9	1.000081
37500.0	233.4	-44.6		355.7	588.9	240.7	42.4	1.000079
38000.0	228.0	-45.8		349.5	587.4	240.7	42.4	1.000078
38500.0	222.8	-47.0		343.3	585.8	241.5	42.7	1.000076
39000.0	217.8	-48.2		337.3	584.3	243.5	43.6	1.000075
39500.0	212.8	-49.4		331.4	582.7	245.4	44.6	1.000074
40000.0	207.9	-50.7		325.6	581.1	246.6	46.2	1.000073
40500.0	203.2	-51.9		319.9	579.5	247.7	47.9	1.000071
41000.0	198.5	-53.1		314.2	578.0	247.9	49.1	1.000070
41500.0	193.7	-54.2		308.2	576.5	247.7	50.0	1.000069
42000.0	189.0	-55.3		302.3	575.0	247.8	50.7	1.000067
42500.0	184.5	-56.5		296.5	573.5	249.0	50.2	1.000066
43000.0	180.0	-57.6		290.9	572.0	250.2	49.8	1.000065
43500.0	175.7	-58.7		285.4	570.4	251.7	48.5	1.000064
44000.0	171.4	-59.9		280.0	568.9	253.3	47.1	1.000062
44500.0	167.3	-61.0		274.7	567.4	255.1	45.7	1.000061
45000.0	163.2	-62.2		269.5	565.9	255.8	44.6	1.000060
45500.0	159.3	-63.3		264.4	564.4	256.5	43.6	1.000059
46000.0	155.5	-64.4		259.5	562.8	257.2	42.6	1.000058
46500.0	151.7	-65.6		254.6	561.3	254.1	39.4	1.000057
47000.0	147.9	-66.7		249.6	559.8	249.5	35.9	1.000056
47500.0	144.2	-67.7		244.5	558.4	244.0	32.7	1.000054
48000.0	140.5	-68.8		239.6	556.9	236.5	31.4	1.000053
48500.0	137.0	-69.8		234.7	555.5	228.3	31.4	1.000052
49000.0	133.5	-70.9		230.0	554.0	220.2	32.0	1.000051

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4940.00 FEET MSL		UPPER AIR DATA		GEODETIC COORDINATES	
25 AUG. 77		2370040184		33.81920 LAT DEG	
ASCENSION NO. 14		STALLION		106.66501 LON DEG	
1450 HRS MDT		TABLE IX. (CONT)			

  

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	ATA SPEED KNOTS	INDEX OF REFRACTION
49500.0	130.1	-72.0		225.3	552.6	222.4	34.0	1.000050
50000.0	126.8	-73.0		220.7	551.2	224.6	36.0	1.000049
50500.0	123.5	-73.9		215.9	549.9	227.4	36.4	1.000048
51000.0	120.3	-74.8		211.3	548.6	232.2	34.4	1.000047
51500.0	117.2	-75.8		206.8	547.3	236.2	32.2	1.000046
52000.0	114.1	-76.7		202.3	546.1	238.4	29.2	1.000045
52500.0	111.1	-76.9		197.2	545.8			1.000044
53000.0	108.3	-71.7		187.2	552.9			1.000042
53500.0	105.5	-71.7		182.4	552.9			1.000041

STATION ALTITUDE 4940.00 FEET MSL  
25 AUG. 77 1450 HRS MDT  
ASCENSION NO. 184

MANDATORY LEVELS  
2370040184  
STALLION  
TABLE X.

GEODETIC COORDINATES  
33.81920 LAT DEG  
106.66501 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		RFL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTIO DEGREES(T)	SPEED KNOTS
800.0	6647.	24.7	7.0	32.	219.2	10.1
750.0	8485.	19.0	6.1	43.	215.4	9.5
700.0	10411.	13.4	1.1	43.	227.2	11.8
650.0	12439.	7.9	-2.4	48.	254.6	17.1
600.0	14592.	4.9	-17.4	18.	252.6	19.5
550.0	16895.	-.9	-19.8	22.	257.1	22.1
500.0	19371.	-4.5	-27.9	14.	268.0	11.1
450.0	22058.	-10.1	-30.6	17.	246.0	21.1
400.0	24998.	-17.3	-30.7	30.	241.2	22.1
350.0	28248.	-22.5	-38.5	22.	233.7	32.2
300.0	31900.	-31.0	-46.9	19.	240.0	33.9
250.0	36056.	-41.0			240.0	40.0
200.0	40909.	-52.7			247.9	49.1
175.0	43698.	-58.9			252.6	47.7
150.0	46818.	-66.1			250.3	36.4
125.0	50380.	-73.5			227.5	36.4

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE I TERPOLATION.